

REMARKS

Claims 5-8 are all of the claims pending in the application. By this Amendment, Applicant hereby amends claims 5-8, without narrowing, for purposes of clarity and to cure minor informalities. Also by this Amendment, Applicant hereby adds claims 9-12.

I. Formal Matters

Applicant thanks the Examiner for initialing the form PTO/SB/08 submitted with the Information Disclosure Statement of December 23, 2005, indicating that the documents cited therein have been considered.

II. Summary of the Office Action

The Examiner rejected claims 5-8 under 35 U.S.C. § 103(a).

III. Claim Rejections under 35 U.S.C. § 103(a)

Claims 5-8 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,349,518 to Zifferer et al. (hereinafter "Zifferer") in view of U.S. Patent Application Publication No. 2002/0147505 to Beck et al. (hereinafter "Beck") and further in view of U.S. Patent No. 5,886,274 to Jungleib (hereinafter "Jungleib"). Applicant respectfully traverses this rejection and respectfully requests the Examiner to reconsider this rejection at least in light of the comments which follow.

Turning first to independent claim 5, the Examiner appears to allege that Zifferer teaches "an instruction table for storing instructions and corresponding input/output types of parameters for the instructions," as recited, *inter alia*, in claim 5. Applicant respectfully disagrees.

The Examiner points to a database file 398 that, according to Zifferer, is where the software package maintains cross-reference information for the addresses 402. The database file

398 disclosed by Zifferer, however, fails to correspond input/output types of parameters for instructions, with the instructions. Instead, according to Zifferer, each record 400 in the cross-reference file 398 is comprised of the PLC address 402, an identifier for each instruction that uses the address 404, a program file number containing the instruction 406, a rung number in the program file where the instruction is located 408, and other data 410 (*see* col. 7, lines 34-39 of Zifferer). Thus, Zifferer does not disclose that the input/output types of parameters for instructions are corresponded with the instructions in the cross-reference file 398. Instead, Zifferer appears to disclose that PLC addresses are corresponded with instructions that use the PLC addresses (including identifiers for each instruction, rung numbers where the instructions are located (*see* col. 7, lines 34-39 of Zifferer); Zifferer makes no mention of input/output types with respect to the cross-reference file 398.

The Examiner further appears to allege that Zifferer teaches “a search/determination means for searching the instruction table for an instruction in a code in a portion of a sequence program selected as diversion data from an existing diversion-source sequence program, to determine a corresponding input/output type of a parameter for the instruction,” as recited, *inter alia*, in claim 5. Applicant respectfully disagrees.

The Examiner points to a database file 384 that, according to Zifferer, maintains the “attachment” between symbols 392 and addresses 388 (*see* col. 7, lines 14-16 of Zifferer). Applicant respectfully notes that the Examiner appears to construe both the attachment file 384 and the database file 398 to be the same as the instruction table recited in the claim, despite, according to Zifferer, the apparent distinctions between the attachment file 384 and the database file 398 (*see* col. 7, lines 14-47 of Zifferer). Regardless, Applicant respectfully submits that

neither the attachment file 384 nor the database file 398 is the same as the instruction table recited in the claim.

According to Zifferer, each record 386 in the attachment file 384 is comprised of the PLC address 388, a global/local identifier 390, a symbol 392, a description of the symbol 394, and other data 396 not related to “attachments” (*see* col. 7, lines 16-19 of Zifferer). Further according to Zifferer, the software package can search the attachment file 384 in two ways: (1) supplying an address 388 and searching the file 384 for the attached symbol 392; or (2) supplying the symbol 392 and searching the file 384 for the attached address 388 (*see* col. 7, lines 19-24 of Zifferer). But Zifferer does not disclose that any information regarding input/output types of parameters is stored in the database file 384. Accordingly, as discussed above, Applicant respectfully submits that Zifferer fails to teach the instruction table recited in the claim.

Furthermore, the database file is not searched against an instruction. Rather, as noted above, the table is searched against an address or against a symbol (*see* col. 7, lines 19-24 of Zifferer). A person of ordinary skill in the art would understand that an instruction is not the same as an address or a symbol. Moreover, Zifferer does not disclose that the address or symbol that the database file 384 is searched against is from an existing diversion-source sequence program.

Additionally, searching an instruction table for an instruction in a code in a portion of a sequence program selected as diversion data from an existing diversion-source sequence program, to determine a corresponding input/output type of a parameter for the instruction, appears to be unnecessary for achieving the objectives according to Zifferer of attaching symbols to ladder logic instructions and element addresses (*see* col. 3, lines 46-68 of Zifferer).

The Examiner also appears to allege that Zifferer teaches “a search result creating/storing means for creating and storing a search result table by combining an address in the code in the selected portion of the sequence program, with the determined corresponding input/output type,” as recited, *inter alia*, in claim 5. Applicant respectfully disagrees.

The Examiner points to the cross-reference file 398 according to Zifferer, as shown in FIG. 37. Each record in the cross-reference file 398, however, comprises a PLC address 402 (*see* col. 7, line 35 of Zifferer), rather than an address in the code. Furthermore, the cross-reference file 398 as disclosed by Zifferer does not include input/output types of parameters for the instructions.

Applicant respectfully submits that Beck and Jungleib fail to cure the above-identified deficiencies of Zifferer with respect to claim 5.

The Examiner appears to concede that Zifferer does not teach “a component data creating means for creating a variable data table by replacing the determined corresponding input/output types stored in the search result table with variable names,” as recited, *inter alia*, in claim 5. However, the Examiner alleges that Beck discloses this feature. Applicant respectfully disagrees.

Instead of replacing determined corresponding input/output types with variable names, the automation equipment programming station according to Beck programs an automation application program comprising a step to replace symbolic input-output variables 100 with corresponding topological addresses 200 (*see* FIG. 1, abstract, and paragraphs 0106-0109 of Beck).

A person of ordinary skill in the art would understand that replacing input/output types with variable names is not the same as replacing symbolic input-output variables with topological addresses.

Applicant respectfully submits that input/output types are not the same as the symbolic input-output variables 100 according to Beck because symbolic input-output variables 100 comprise two fields 101, 102: a first field 101 being composed of a character string that the analysis means uses to extract the structured type identifier from instantiation table 4 and the physical location (rack number, slot number in this rack, and channel number in this slot) of the input-output module of the automation equipment from configuration table 5; and a second field 102 being composed of an identification of an element 1.11 of the structured type object 1.10, 1.20 (*see* paragraphs 0098-0102 and 0106-0109 and claims 1 and 2 of Beck).

Applicant respectfully notes that the Examiner has not pointed to any disclosure or teaching regarding “creating component data by adding the corresponding variable names to variables and to circuit information,” as recited, *inter alia*, in claim 5. Applicant respectfully submits that this feature is not taught by any of the cited references.

The Examiner appears to concede that Zifferer and Beck do not teach “a component data diversion means for diverting the component data into an arbitrary position in a designated sequence program,” as recited, *inter alia*, in claim 5. However, the Examiner alleges that Jungleib teaches this feature. Applicant respectfully disagrees.

The sequencer editor 335 according to Jungleib is limited to the function of modifications such as cut, paste, repeat, etc. of stored raw musical data 330 (*see* col. 4, lines 23-29 of Jungleib). Jungleib does not relate to a program sequence. Furthermore, Jungleib fails to teach or suggest a detailed description of diverting, such as what to divert, where to divert into, etc.

Furthermore, Applicant respectfully submits that there is no apparent reason why a person of ordinary skill in the art at the time of the invention would have combined the Jungleib reference with Zifferer. Applicant further respectfully submits that the combination is improper because Jungleib is not analogous art. The Examiner indicates on page 5 of the Office Action that Jungleib teaches a sequence editor that preferably allows users to copy and paste a program sequence, and that Jungleib is analogous art because "they are from method of ladder logic programming for Programmable Logic Controller." Applicant respectfully disagrees.

Jungleib does not relate to a method of ladder logic programming for a PLC. Instead, according to Jungleib, Jungleib relates to a composition and playback system including a sound bank containing at least one instrument sound, an input device for receiving music control signals, a sequencer coupled to the input device for storing the music control signals, and a work manager coupled to the sound bank and to the sequencer for generating a musical work file containing the music control signals and at least a portion of the sound bank (*see* abstract of Jungleib). Accordingly, Applicant respectfully submits that there is no apparent reason why a person of ordinary skill in the art would combine Jungleib with Zifferer.

At least for the above reasons, Applicant respectfully submits that claim 5 is patentable over Zifferer, Beck, and Jungleib. Independent claim 7 recites features similar to, although not necessarily coextensive with, the features discussed above with respect to claim 5. Accordingly, Applicant respectfully submits that claim 7 is patentable over Zifferer, Beck, and Jungleib at least for the reasons discussed above with respect to claim 5. Applicant respectfully submits that dependant claims 6 and 8 are patentable over Zifferer, Beck, and Jungleib at least by virtue of their dependency on claims 5 and 7, respectively.

IV. New Claims

Applicant hereby adds claims 9-12, which are supported throughout the specification. Applicant respectfully submits that claims 9-12 are patentable over Zifferer, Beck, and Junglieb at least by virtue of their dependency on claims 5 or 7.

V. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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